

IN THE CLAIMS:

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1. (Currently Amended) A multichannel wavelength-division multiplex fiber optic transmission system, comprising: including
an optical transmitter, and
an optical receiver connected to the optical transmitter by an optical line, the line including:
at least one optical fiber, and
at least one set of channel regenerators,
wherein ~~successive~~ each one of the set of channel regenerators regenerate regenerates only a
predetermined ~~respective groups~~ group of channels, each respective group forming only a
subset of said set of channels.

2. (Currently Amended) The system claimed in claim 1, wherein the number of ~~successive~~
channel regenerators is a submultiple of the number of ~~regenerators~~ channels.

3. (Original) The system claimed in claim 1 wherein each group includes only one channel.

4. (Original) The system claimed in claim 3 wherein each regenerator is an optical regenerator.

Sub B
5. (Currently Amended) The system claim in claim 1 wherein at least one group includes ~~two~~ a plurality of the channels.

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6. (Currently Amended) The system claim in claim 4 5, wherein ~~each regenerator for~~
~~regenerating a~~ the regenerator for the group having the plurality of channels includes comprises:
means for synchronizing the plurality of channels ~~to be regenerated~~, and

an optical regenerator unit performing the regenerating of the plurality of channels.

7. (Currently Amended) The system claimed in claim 4, wherein each channel regenerator ~~includes~~ comprises a synchronous modulator.

8. (Currently Amended) The system claimed in claim 1, wherein each channel regenerator ~~includes~~ comprises a demultiplexer and a multiplexer so as independently to process ~~independently~~ channels which are to be regenerated and channels which are not to be regenerated.

9. (Currently Amended) The system claimed in claim 1, wherein each channel regenerator ~~includes~~ comprises an inserter/extractor system for isolating channels to be regenerated.

10. (Currently Amended) The system claimed in claim 1, wherein each channel regenerator ~~includes~~ comprises a compensator amplifier ~~for~~ compensating intensity differences between regenerated and non-regenerated channels.

11. (Currently Amended) ~~A~~ The system as claimed in claim 1 further ~~including~~ comprising supervisory means using a dedicated channel.

12. (Currently Amended) The system claimed in claim 11, wherein each channel regenerator ~~includes~~ comprises:

means for separating said dedicated channel from the other channels,

a supervisory unit for transmitting information relating to the status of said regenerator on said dedicated channel, and

means for remultiplexing said dedicated channel with the other channels.

AMENDMENT UNDER 37 C.F.R. § 1.111
APPLICATION NO. 09/493,091
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13. (Currently Amended) The system claimed in claim 12, wherein:
each channel regenerator includes a regenerator unit for regenerating the channels of a group of
channels, and
the supervisory unit receives information from said regenerator unit and a portion of the
regenerated signal delivered by said regenerator unit.
14. (Currently Amended) ~~A~~ The system as claimed in claim 1 further ~~including~~ comprising:
a plurality of spaced optical amplifiers, and
a plurality of spaced optical regenerators,
wherein the spacing of said optical regenerators is a multiple of the spacing of said optical
amplifiers.
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